1982-09

Profile in Perspective: The Policy and Research Implications of the "Profile of American Youth"

Eitelberg, Mark J.; Doerling, Zahava D.

American Psychological Association

NINETIETH ANNUAL CONVENTION
OF
THE AMERICAN PSYCHOLOGICAL ASSOCIATION

Proceedings of
Division of Military Psychology Symposium

THE PROFILE OF AMERICAN YOUTH STUDY:

Results and Implications

Technical Memorandum 82-2

Directorate of Accession Policy
Office of the Secretary of Defense

September 1982

THE PROFILE OF AMERICAN YOUTH STUDY: RESULTS AND IMPLICATIONS

Table of Contents

PROFILE IN PERSPECTIVE:
THE POLICY AND RESEARCH IMPLICATIONS OF THE "PROFILE OF AMERICAN YOUTH"

by

Mark J. Eitelberg and Zahava D. Doering

The "Profile of American Youth" is one of those very rare research studies--among the many thousand undertaken each year by government agencies, universities, private firms, and individuals from Poughkeepsie to Pomona--that has been bathed in the limelight of the nation's popular media. One could say that the public press has a matchless knack for locating the most "important" discoveries of our time in the cogs and coils of day-to-day science. But what the public press usually finds "important" is whatever keeps viewers tuned to stations and readers buying papers. As an astute scholar once observed, "at any time, the professional literature is full of socially important results that are potential raw material for journalism" (Cronbach, 1975). And most of the raw material seldom, if ever, gets noticed.

Why, then, has so much fuss been stirred up over the recent release of the "Profile" study results? Could it be that the new study was singled out solely for its provocative subject matter--including, as the Washington Post heralded in a front-page headline, the customary and predictable revelation that "Blacks Score Below Whites in Pentagon Test" (Wilson, 1982)? Was the Department of Defense project merely the victim of a public press on the prowl for controversial copy--or did the study results actually merit the attention of a national audience?

It is difficult for those who have been immersed in the evolutionary stages of a research project to step back, play the role of impartial observer, and appraise with unclouded objectivity the products of their own labors. Nonetheless, this paper attempts to explore the likely implications of the "Profile of American Youth" for policy-related research by placing the study results in a social and military context. A backdrop or setting for the results will make it possible to view--in proper perspective--the present and potential value of this major research endeavor.

The "Profile of American Youth"

In 1980, the Department of Defense and the Military Services, in cooperation with the Department of Labor, sponsored a large-scale research project to assess the vocational aptitudes of American youth. A national probability sample of approximately 12,000 young men and women, consisting of participants in the National Longitudinal Survey (NLS) of Youth Labor Force Behavior, was administered the Armed Services Vocational Aptitude Battery (ASVAB).

This multimillion dollar project, known as the "Profile of American Youth," marks the first time that a vocational aptitude test has been administered to a nationally representative sample. The "Profile" study thus offers an unprecedented opportunity to evaluate the "cross-sectional character" of military enlistees based on a national measure of vocational test performance. In addition, the Military Services now have, for the first time, a truly valid means for (a) detailing the specific attributes and "trainability" of the military-age population, by geographic area and social category (for recruiting purposes or possible future mobilization); (b) estimating, with a greater degree of precision, the effects of various modifications in aptitude/education standards on recruiting outcomes (under a variety of conditions); (c) tracking (through the linkage with the main NLS data bases) the labor force behavior of American youth according to measured vocational aptitudes and attitudes toward the military; and (d) gauging the comparative aptitudes of different demographic subgroups of American youth.

The findings from initial analyses of "Profile" study results are presented in Profile of American Youth: 1980 Nationwide Administration of the Armed Services Vocational Aptitude Battery (Department of Defense, 1982). This report describes the project, presents a comparison of the aptitude test scores of military recruits and contemporary youth, and evaluates the performance of selected population subgroups on the Armed Forces Qualification Test (AFQT), ASVAB subtests and composites, and the Adult Basic Learning Examination (ABLE).

As stated in the Department of Defense report, "the profile data base contains a wealth of information that will benefit both military and civilian manpower analysts for many years to come" (Department of Defense, 1982). Indeed, in addition to ASVAB performance measures, the connective link between the "Profile" study and the NLS creates an unparalleled information resource on the aptitudes, attitudes, general attributes, and vocational behaviors of military-age youth. The NLS, for instance, contains over 150 variables of descriptive data on the survey sample--including general personal information, interview status, family background/socioeconomic status, education history, military history, and health history. Furthermore, the NLS incorporates material on youth attitudes toward vocational objectives and job satisfaction determinants, employment compensation, military enlistment and reenlistment (for the military subsample), the world of work, the quality of life, and life goals and decisions.

Certainly, popular understanding or awareness of this "wealth of information" contained in the "Profile" study does not account for the shower of publicity surrounding its release. The general public and the news media care very little about the potential usefulness of some new data base for advancing the cause of scientific inquiry. In fact, with the possible exception of breakthroughs in the treatment or prevention of common diseases, travels in space, and certain technological inventions, science per se has never fared very well in the media alongside war, crime, or the economy. There are exceptions to this general observation, of course. Particular topics from time to time seem to tickle the popular interest--and especially those areas of scientific research that pit persons of different sexes, racial or social backgrounds against one another in any unsettled manner.

Testing research appears perfectly suited for the purposes of the news media since it characteristically compares people of different types, it has been embedded in controversy for decades, and, most of all, because it touches the hopes and dreams of almost everyone who has ever aspired to gain fortune or "success." From the day our offspring learn to tie their own shoes, their performance on tests of ability--and the interpretations given to the results by others--will serve to guide the path of their education and careers and the opportunities they can pass on to their children. And the chain of advantage and opportunity can link together many generations of family members before it is broken. Such is the influence of tests on our lives.

Testing Today and the Importance of the "Profile" Study

The National Academy of Science's Committee on Ability Testing observes that "every society develops some sort of formalized criteria for making selection decisions." Social characteristics and intuitive opinions have typically offered a convenient basis for making these selection decisions. However, "given the great tide of immigrants seeking to find a place in America and the expansiveness of the economy," writes the Committee, "ability testing offered an ordering device that traditional institutions could no longer provide and that accommodated the aspirations of the ambitious. The convergence of these intellectual, economic, and social forces produced a climate conducive to the acceptance of tests and testing in industrial, educational, and governmental settings during the first half of this century (Wigdor & Garner, 1982)."

Now, amid the lively controversy over the use and misuse of standardized tests, there is a somewhat declining reliance on traditional paper-and-pencil tests of ability. Many employers and educators, in an effort to reduce their vulnerability to charges of discrimination and unfairness have tended to curtail use of certain tests in favor of alternative selection criteria (Friedman & Williams, 1982). Yet, tests still determine to a large extent who goes to college, who gets hired, promoted, retained, licensed, and certified--or who gets life's "chances" and who does not. And the costs and benefits of these tests are enormous to the users, the individual test takers, and the society itself.

For the test takers, the Committee on Ability Testing points out, "the consequences of testing are the opportunities gained or lost. Unsatisfactory performance will cost the test taker access to one sort of future." On the other hand, "the benefits of testing accrue to the taker who gains access to a limited opportunity, is assigned to a potentially more rewarding position, is barred from an opportunity that would have led to failure, or can gain self-knowledge that will help in choosing among educational or vocational options" (Wigdor & Garner, 1982).

The question of the costs and benefits of testing for the nation as a whole, states the Committee, "goes to the very nature of the society one wishes America to be." "The aim of testing," it adds, "is to identify those who are best prepared by nature and training to perform well in a given role." But, one must ask: "can the selection of the 'best' one of ten people into a superior job, college, or occupation balance the 'loss' to the

others, those who are not selected?" Or, does the recognition of "excellence" create invidious comparisons, more visible inequality, and promote the perpetuation of the established social and economic order of the nation and its many institutions (Wigdor & Garner, 1982)?

The search for answers to these questions goes far beyond the scope of this paper. But the general topics and issues that are presently being thrashed out in public, academic, and government forums serve to emphasize the substantial consequences of testing on the individual and the entire nation.

For several hundred thousand young men and women each year, the ASVAB, used for the selection and classification of applicants for military service, is a primary measure of "excellence" and a visible determinant of "success" or "failure." For the American Armed Forces, the ASVAB plays a powerful role in setting the basis or foundation for evaluating manpower "quality" and, indirectly, the state of defense preparedness. In fact, the military's vocational aptitude battery--administered annually to over one-and-one-half million applicants for military service and high school students--is the largest volume employment test in the United States. With the exception of school-level, state-administered proficiency examinations, only the Scholastic Aptitude Test (SAT) and the American College Testing Program (ACT), which account for virtually all undergraduate college admissions testing, even approach the annual volume of ASVAB tests.[1]

At this point, the importance of the results obtained through the "Profile of American Youth" project should be obvious. The "Profile" study provides the very first look at the performance of a nationally representative sample of American youth on the country's most widely administered employment screening test. The test itself has a direct effect on the employment and training opportunities of millions of young men and women. Moreover, the test influences the manner in which the nation gauges its defense capabilities and determines the nature and scope of its related allocations of people, time, and money. Even more important, though, the "Profile" study offers a unique snapshot of the vocational aptitudes of American youth from all corners of the country, all backgrounds, and all walks of life. At a time when testing in general is under fire and widespread scrutiny, it is not at all surprising to find a great deal of public and professional interest in the "Profile of American Youth."

The Social Context of the Study Results

A Washington Post editorial, appearing soon after the release of the "Profile" study, raised a fundamental question about the significance of the results for social policy:

---

[1]Approximately 1.5 million young men and women take the SAT at least once each year, and just under 1 million take the ACT. Many college-bound high school students take both tests. See Rodney Skager, "On the Use and Importance of tests of ability in admission to postsecondary education," Ability testing, Part II, pp. 286-314.

> Disparities of scores on this scale, among large sectors of the population, are unhealthy and a reproach to a country that asserts equality of opportunity. . . . Since differences of this magnitude are not consistent with American principles, what is to be done about them?

"These [Profile] test scores sound a note of caution" about returning social policy to the states, the Post added, "for they draw attention to the strong national interest in ending severe differences in basic social services--education, health, nutrition--from one state to another (Washington Post, 1982)."

Washington Post columnist William Raspberry offered a similar observation in the very next issue of the newspaper. The results are truly "embarrassing," Raspberry found, because "black men and women did only about half as well as whites on the test, and also scored lowered than Hispanics."

"Ask any black man or woman you see what the test reveals," he wrote, "and the answers are likely to focus not on bias or native intelligence but on the shamefully poor education of black children, in school and out, particularly in the big cities (Raspberry, 1982)."[2]

Around the same time, Secretary of Education Terrel H. Bell reportedly remarked that the scores of blacks on the military's tests would be even lower if the government stopped aid to needy students, so the cuts in education spending are very hard to justify. "I would hope that our cut in Title I is a temporary measure and maybe we can see a time where we can have some resources come back," Bell stated. "If it weren't for Title I, it [the relatively low test scores of minorities] might be even worse than it is (Washington Post, 1982)."

Still others, according to U.S. News & World Report, "seized upon" the study "as evidence that the government needs to spend more, not less, to help educate the poor" (U.S. News & World Report, 1982). Former Education Commissioner Ernest Boyer, for example, joined the fray when he lashed out at the present Administration's education policies: "The education safety net for needy students is being shredded. School enrollments are increasingly black and brown, yet only about half of these complete high school. It is a demographic time bomb."

This particular type of response to the "Profile" study characterized many editorials and media commentary throughout the country. Basically, the stimulus for this reaction came from the wide differences found between the

---

[2]It should be noted here that blacks did not score "half as well as whites on the test." This was a common misinterpretation in the press accounts of the study results--due mainly to confusion about the difference between "percent" and "percentile." One could speculate whether equal attention would have been showered on the study if, in fact, it was correctly reported in the media that, on average, the scores of blacks were separated from those of whites by "just over one standard deviation."

test scores of whites and blacks. Social class distinctions in test performance were also evident in the scores of persons with different levels of education, those from different regions of the country, and those from different socioeconomic backgrounds.

As shown in Table 1, the average scores of black youth on the AFQT--regardless of age or sex--were far below the average scores for whites and somewhat lower than the scores for Hispanics. Actually, the differences between the scores of youth from these three racial/ethnic categories were quite consistent on each of the various ASVAB subtests. Table 2, for instance, indicates that, on all subtests, the average scores for whites exceed the average scores for blacks by about one to one-and-one-half standard deviations of the total population score distributions.

The merger of the computer data tapes from the "Profile" study and the NLS actually resulted in test scores of young men and women from no fewer than 29 different racial/ethnic groupings.[3] Several of the categories had very small sample sizes. To avoid improper use of these data and inappropriate statistical inference, sampling experts subsequently combined similar categories to produce twelve groupings on the computer tapes designated for public access. The AFQT mean standard scores of individuals (ages 16 through 23) according to these categories are shown in Table 3.

The AFQT mean standard scores of the "Profile" study sample arranged by the twelve racial/ethnic categories provide some further insight into the nature of subgroup differences. First of all, there are certain notable differences in the AFQT mean scores of persons otherwise labeled simply as "Hispanic." Persons who claim to be of Cuban descent, for instance, achieved a mean score considerably higher than those who claimed to be of Mexican, Puerto Rican, or other Hispanic descent. Of all the possible categories depicted in Table 3, it is blacks who have attained the lowest AFQT mean standard score.

Recent studies have similarly suggested that blacks, among all racial/ethnic groups, fare the worst on standardized tests of this nature. It was this observation, in fact, that prompted economist Thomas Sowell to point out (in a study of American Ethnic Groups) that the performance of blacks has not changed very much during the history of standardized testing--largely because test performance parallels socioeconomic status. And, Sowell writes, the socioeconomic position of blacks has remained relatively static in relation to whites (regardless of their ethnic origins), not even beginning to show improvement until the Civil Rights Movement of the mid-1960s (Sowell, 1978).

---

[3]The survey question was: "What is your origin or descent?" If there was more than one response, the interviewer asked: "Which one of these do you feel closest to?" Respondents identified the following groups as their "origin or descent": American, Asian-Indian, Black, Chicano, Chinese, Cuban, English, Filipino, French, German, Greek, Hawaiian/Pacific Islander, Irish, Italian, Japanese, Korean, Mexican, Mexican-American, Native American, Puerto Rican, Other Latin American, Other Spanish, Other, Polish, Portuguese, Russian, Scottish, Vietnamese, and Welsh.

Table 1

AFQT Mean Standard Scores of American Youth (18-23 Years) by Sex, Racial/Ethnic Group, and Educational Level

Racial/Ethnic Group and Sex	Educational Level		
	Non-High School Graduate	GED High School Equivalency	High School Diploma Graduate and Above
White			
Male	468	518	550
Female	468	517	543
Total	468	517	547
Black			
Male	365	436	417
Female	346	441	456
Total	356	439	458
Hispanic			
Male	388	470	505
Female	392	447	484
Total	392	460	494
TOTAL			
Male	446	502	540
Female	446	500	529
Total	446	501	533

Source: Derived from special tabulations provided by the Office of the Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics).

Table 2

ASVAB Subtest Mean Standard Scores of American Youth (18-23 Years) by Racial/Ethnic Group and Sex

Subtest	Number of Questions	Mean Standard Score								
		Male			Female			TOTAL		
		White	Black	Hispanic	White	Black	Hispanic	White	Black	Hispanic
General Science	25	543	405	438	501	393	400	522	399	419
Arithmetic Reasoning	30	537	413	450	504	401	416	521	407	433
Word Knowledge	35	524	386	429	525	397	416	525	392	423
Paragraph Comprehension	15	510	399	427	530	422	431	520	411	429
Numerical Operations	50	507	408	442	528	434	449	518	421	446
Coding Speed	84	494	396	441	541	442	468	518	419	455
Auto & Shop Information	25	603	415	480	447	345	361	525	380	421
Mathematics Knowledge	25	524	431	454	508	430	430	516	431	442
Mechanical Comprehension	25	572	416	469	472	378	387	522	397	428
Electronics Information	20	529	467	483	490	445	451	510	456	467

Source: Derived from special tabulations provided by the Office of the Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics).

Table 3

AFQT Mean Standard Scores of American Youth (16-23 Years) by Self-Identified Ethnic Origin or Descent

Ethnic Origin or Descent[a]	AFQT Mean Standard Score (weighted)
Asian	505
Black	428
Cuban	494
European/Eastern	542
European/Southern	513
European/Western	529
Mexican or Mexican-American	448
Native American	497
Other (e.g., "American" and "None")	523
Other Hispanic	467
Puerto Rican	444

[a]The survey question was: "What is your origin or descent?" If there was more than one response, the interviewer asked: "Which one of these do you feel closest to?" Twenty-nine different ethnic "origins" were identified by the respondents. These ethnic origins and countries of family descent were then combined to form the several categories displayed here.

The relatively poor performance of blacks on the ASVAB has provided a focus for criticism concerning the social directions of the current Administration. Needless to say, the performance of blacks and other minorities is strongly linked with their position on America's socioeconomic ladder. In addition to the data on racial/ethnic differences, commentators frequently focused on the "Profile" study test results of youth arranged by mother's education (Table 4). The data on mother's education were a source of special interest for two major reasons: (1) mother's education was used in the "Profile" study report as a surrogate or proxy for socioeconomic status and a general indicator of family background; and (2) the differences between the average test scores of successive categories (five groups in all) were quite substantial and remarkably consistent across all racial/ethnic and sex classifications.

Several commentators were also intrigued by the test results arranged according to geographical residence of examinees at the time of testing (Table 5). Even though regional differences in test performance are well-documented in the testing literature, this particular aspect of the "Profile" study gained a significant amount of publicity. The explanation for this is probably twofold: (1) regional differences further emphasize regional disparities in the quality of education and the inequality of opportunities available to persons of different socioeconomic or cultural backgrounds; and (2) the results on geographical differences coincided with the President's push for federal decentralization and increased control by states over their own educational, social, and economic policies and programs.

It is interesting to observe that the "Profile" study results were used by advocates of differing political philosophies from both extremes of the spectrum. Some proponents of states' rights and the "new federalism," for instance, were heard to claim (though not in any printed form we have seen) that the "Profile" study furnished undeniable proof of the failures and foolishness perpetrated by the liberal establishment of the 1960s and 1970s. For all the money and time and energy spent on bringing about equality of educational and economic opportunity, these individuals hold, the test scores of minorities still remain as far distant as they ever have been from those of the white majority.

Others, as noted above, point out that the racial/ethnic and social class differences only further justify the need to reverse the many years of neglect and indifference exhibited toward the less-advantaged citizens of this nation. The great gap between the test scores of rich and poor, white and black, educated and undereducated, Northerner and Southerner, champions of this view maintain, is an intolerable disgrace for a country and a people that preach fairness and social justice.

Still another group of commentators adopted the tactic of coupling "the appalling diversity of educational, economic, and other opportunities across the nation" with the ultimate disintegration of the national defense. Carl T. Rowan, for example, warned that "we could pay the ultimate price for ignoring the lessons and warnings of this Pentagon study":

> That Pentagon study says to Americans: you may think that arguments over "white flight," housing discrimination, gerrymandering of school districts, tax

Table 4

AFQT Mean Standard Scores of American Youth (18-23 Years) by Sex, Racial/Ethnic Group, and Mother's Education

Racial/Ethnic Group and Sex	Mother's Education				
	8th Grade or Less	Grades 9-11	High School Graduate	Some College	College Graduate or More
White					
Male	449	485	527	561	577
Female	445	487	529	551	581
Total	447	486	528	556	578
Black					
Male	363	375	408	471	485
Female	366	393	424	450	482
Total	365	384	416	461	484
Hispanic					
Male	400	436	487	513	538
Female	394	434	469	510	553
Total	397	435	479	511	542
TOTAL					
Male	420	455	515	551	568
Female	418	462	516	541	574
Total	419	459	516	546	571

Source: Derived from special tabulations provided by the Office of the Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics).

Table 5

AFQT Mean Standard Scores of American Youth (18-23 Years) by Sex, Racial/Ethnic Group, and Geographic Region

Racial/Ethnic Group and Sex	Geographic Region (U.S. Bureau of Census)			
	Northeast	North Central	South	West
White				
Male	534	530	508	521
Female	534	520	510	527
Total	534	526	509	524
Black				
Male	406	425	382	410
Female	422	397	402	426
Total	412	410	392	417
Hispanic				
Male	420	428	457	428
Female	388	436	430	429
Total	405	432	443	429
TOTAL				
Male	512	520	477	500
Female	512	507	479	505
Total	512	514	479	503

Source: Derived from special tabulations provided by the Office of the Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics).

> exemptions for Jim Crow "Christian academies" and universities, and affirmative action programs are separate episodes of emotionalism. But they all go to the heart of national defense--to the question of whether we remain strong enough to deter any foe (Rowan, 1982).

And a Washington Post editorial similarly observed:

> At a time when the country is increasing its defense spending and holding down just about everything else, these scores provide compelling notice that there is more to military strength than buying tanks. The distinction between a strong defense and the social programs is not quite so clear as you might think from listening to the current budget debate. In these test scores, the Pentagon draws that crucial connection (Washington Post, 1982).

The marriage between the "Profile" study and the main NLS data base should contribute a vast amount of new information on the social and economic correlates of test performance. And when the next phase of analyses hits the public eye--including longitudinal evidence regarding the expectations and early career outcomes (post-"Profile") of the test takers--yet another wave of commentary will certainly spring forth.

The Military Context

There is little question that the "Profile of American Youth" accomplishes at least its most immediate objectives for the military establishment. First, it allows researchers and manpower analysts to evaluate the "cross-sectional character" of military recruits in terms of measured aptitudes. Previously, in the absence of information on the general population, military manpower analysts have relied on either (1) the World War II reference population or (2) data compiled for pre-inductees or military applicants. The World War II reference population is limited for use as a comparison measure because of several reasons--including the mere fact that it represents only the composition of males (of varying ages) on active duty (enlisted personnel and officers) as of 31 December 1944. Data on pre-inductees and applicants have been used widely--but analyses have long suggested that the self-selected samples of applicants and the pre-inductees picked by the Selective Service System over the past thirty years differ considerably from the general population in regard to measured abilities.

The results of the "Profile" study will also permit the Department of Defense to better understand the capabilities of American youth and thus define its prospective manpower requirements and training needs. The test results will facilitate mobilization planning so that, in the event of conscription, the Military Services can meet their personnel requirements by establishing entrance standards congruent with the available resources of manpower. Decisions on who should be drafted, or permitted to volunteer, can then be based on accurate knowledge of the aptitudes of contemporary youth.

non-high school graduates were not eligible for enlistment in either the Navy or the Marine Corps; and female high school graduates who wished to enlist in these Services were required to meet different aptitude standards than those established for males.

Recent analyses by the Brookings Institution--using the separate Service aptitude standards in effect during FY 1981--have been performed to determine (on the basis of ASVAB results and data on sex and education) the numbers and proportions of American youth (ages 18 through 23) who would qualify for military service (Binkin & Eitelberg, 1982). Aptitude standards for FY 1981 were used because this period (October 1980 through September 1981) coincides roughly with the point of educational attainment established for the "Profile of American Youth" population (i.e., September 1980, or the start of the 1980-81 school year).

Table 6 displays the results of the Brookings analysis. First of all, it is apparent that enlistment "selectivity" varies from Service to Service. Proportionately more American youth, regardless of sex, would be expected to qualify for the Army than for any other Service. At the same time, the lowest proportion of youth would be expected to qualify for the Marine Corps. The stringent Marine Corps "selectivity quotient" is largely the effect of entry restrictions on females. The Navy's debarment of female non-high school graduates also affects the eligibility rate for all youth in this Service. Not shown in Table 6 are the separate eligibility rates for males and females. The estimated eligibility rates for all male youth, by Service, are as follows: Army, 77 percent; Navy, 75 percent; Marine Corps, 72 percent; and Air Force, 63 percent. The estimated eligibility rates for all females are: Army, 80 percent; Navy, 58 percent; Marine Corps, 46 percent; and Air Force, 60 percent.

The differences in the enlistment eligibility rates for the three racial/ethnic groups displayed in Table 6 are quite substantial. For example, approximately four out of five white youth would be expected to qualify for enlistment in the Army. Just over half of all Hispanic youth, and just under half of all black youth, would meet the minimum aptitude standards established by the Army. And the disparity between racial/ethnic groups is even wider in the other Services. About three out of ten white youth, for instance, would probably fail to qualify for entry into the Air Force, based on FY 1981 minimum aptitude/education standards; in sharp contrast, almost four out of five black youth would probably be rejected by the Air Force.

Substantial variance in the eligibility rates of youth by educational level can also be observed both within and between separate racial/ethnic groups. The enlistment eligibility rates for non-high school graduates, regardless of racial/ethnic group, are considerably below the comparable rates for persons with equivalency certificates or high school diplomas. Minorities who are high school dropouts (without GED certificates), in fact, have little or no likelihood of being able to meet the minimum enlistment criteria established by the Armed Services.

The military "participation rates" of American youth (males only) were calculated with data from the "Profile of American Youth" study and recruiting statistics compiled by the Defense Manpower Data Center. The "participation rate" is defined as the percentage of male youth born between January 1,

Table 6

Estimated Percent of American Youth (18-23 Years) Who Would Qualify for Enlistment In the Military Services By Racial/Ethnic Group and Educational Level[a]

Racial/Ethnic Group and Education[b]	Military Service			
	Army	Navy	Marine Corps	Air Force
White[c]				
NHSG	41.7	19.9	22.5	11.2
GED	76.0	70.4	35.1	56.1
HSG	96.4	87.5	79.8	85.1
TOTAL	85.7	74.5	67.7	70.5
Black[d]				
NHSG	7.1	3.8	3.9	0.8
GED	35.2	26.6	13.9	11.2
HSG	68.6	45.6	33.8	32.1
TOTAL	48.1	31.7	23.6	21.5
Hispanic				
NHSG	13.6	4.8	5.5	1.5
GED	40.0	35.7	18.8	16.8
HSG	85.7	64.8	54.7	56.7
TOTAL	54.6	39.2	33.3	32.7
TOTAL				
NHSG	31.6	15.0	16.8	8.0
GED	68.0	62.1	31.1	47.4
HSG	92.7	81.6	73.2	77.6
TOTAL	78.7	66.6	59.6	61.5

Source: M. Binkin and M.J. Eitelberg with A.J. Schexnider and M.M. Smith, Blacks and the Military (Washington, D.C.: The Brookings Institution, 1982), p. 98; and special tabulations provided by the Office of the Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics).

[a]Estimates of the percent of youth qualified for military service were calculated on the basis of results from the "Profile of American Youth" (administration of the Armed Services Vocational Aptitude Battery [ASVAB] to a national probability sample in 1980) and the 1981 education/aptitude standards used by the Armed Services. (It should be noted that eligibility for enlistment would also depend on other factors--including medical and moral requirements.)

[b]NHSG is non-high school graduate. GED is recipient of General Educational Development (GED) high school equivalency certificate. HSG is high school diploma graduate or above. The American youth population includes all persons born between January 1, 1957 and December 31, 1962. Educational level was determined as of September 1980 (start of 1980-81 school year).

[c]White category includes all racial/ethnic groups other than black or Hispanic.

[d]Black category does not include persons of Hispanic origin.

Furthermore, the "Profile" study results provide a foundation of information on issues concerning the compatibility of military hardware with those who are expected to operate that hardware--more specifically, whether certain weapon systems, vehicles, communication systems, and military equipment in general are becoming too complicated and demanding for military personnel to operate efficiently.

The longer-range implications of the "Profile of American Youth" for military manpower research are packed with new and exciting prospects. The study, as noted, contains ASVAB performance measures for a nationally representative sample of American youth. The sample has approximately equal proportions of males and females, including individuals from urban and rural areas, and from all major census regions. For the purposes of previous analyses, this sample was statistically weighted to correspond with the 1980 national youth population. Since the "Profile" study incorporates the scores of contemporary youth on a similar version of the ASVAB used currently to screen military recruits, it is possible to estimate, with reasonable precision, the numbers and proportions of American youth who would be expected to qualify for military enlistment under present standards. Enlistment eligibility rates for the general population, when combined with information on enlistment behavior, also allow--for the first time--accurate computation of the military "participation rates" of qualified youth.

Numerous attempts have been made throughout the years to fix the limits of the so-called "eligible" population and, therefrom, to calculate the military "participation rates" of various demographic subgroups (Cooper, 1977; Directorate for Manpower Research, 1972; Karpinos, 1962; Kim, 1980; and The President's Task Force on Manpower Conservation, 1964). The rates of participation for all youth (or specific age cohorts) can be easily determined with Department of Defense statistics (Master/Loss data files) and Bureau of the Census population estimates. However, the "participation rates" of qualified youth--a more "refined" measure of participation--must be based on a reasonable estimation of the number and characteristics of potentially qualified youth. Most attempts to describe the pool of potentially qualified youth have, in the past, hinged upon aptitude test score data compiled for pre-inductees or the aggregate population of applicant/examinees. Consequently, previous estimates of the "participation rates" of potentially qualified youth are subject to serious error.

Each Military Service applies its own aptitude standards in determining eligibility for enlistment. These aptitude standards reflect the diverse requirements of the separate Services, and they typically vary according to educational attainment (high school graduation status) and, at times, according to sex. For example, in the Army, male and female high school graduates during FY 1981 were required to achieve a minimum AFQT score of 16 and a score of at least 85 on one of nine Service-specific aptitude composites. In contrast, Air Force enlistment standards for FY 1981 required that male and female high school graduates achieve a minimum AFQT score of 21; in addition, they were required to attain a combined aptitude composite score (including the Mechanical, Administrative, General, and Electronics composites) of no less than 120.

Higher aptitude scores are required ordinarily for male non-high school graduates and GED recipients in each of the Services. In FY 1981, female

1957 and December 31, 1962 who enlisted in the military (for the first time) between July 1973 and September 1981.

Table 7 shows the participation rates, by racial/ethnic group and educational level, for two base populations: (1) all male youth (within the respective category); and (2) all male youth who would be expected to qualify for enlistment under FY 1981 aptitude test standards (by racial/ethnic group and education category). It should be noted that the cross-sectional participation rates displayed in Table 7 actually understate the true percentages of male youth who join the military, since they do not include individuals who either (a) enlist after September 30, 1981 or (b) enter officer programs. It should also be pointed out that eligibility for enlistment would depend on other factors in addition to aptitude and education--including medical and moral requirements.

The attraction of the military for minority youth is vividly portrayed in Table 7. Black and Hispanic youth who are qualified for military service have generally enlisted in proportionately greater levels than their white counterparts. This is particularly true for blacks: as of September 1981, almost 42 percent of all potentially qualified black males in the United States (born in 1957 through 1962) have entered military service. One out of three black male youth who had a high school diploma or a GED, and would probably qualify for enlistment, had enlisted by September 1981--while the comparable rate for black high school dropouts is a whopping 136 percent. (This unusually high rate reflects the fact that ASVAB misnorming during FY 1976-80 affected principally the eligibility of non-high school graduates with low aptitude test scores. Many more black youth in this category consequently were accepted for military service than would have qualified with the correctly calibrated test.) In contrast, the participation rate for potentially qualified white high school graduates is 10 percent; and the overall rate for white males who would qualify for enlistment is about 14 percent.

Perhaps an even more revealing aspect of youth participation lies in the fact that potentially qualified youth who do not have a high school diploma or equivalency certificate--regardless of race--find military service an especially appealing job or education alternative. Almost half of all high school dropouts who could probably pass the military's aptitude test standards had enlisted; and more than one out of four qualified GED recipients had made the same choice. In fact, the image of the Armed Services as a place of opportunity, equal acceptance and involvement, regardless of prior social disadvantage or pre-existing handicap, has helped to make the military a traditional channel for social mobility. The participation rates displayed in Table 7 tend to confirm that both the image and the promise of "opportunity" are still quite strong. And, now, with the ability to track through longitudinal surveys the life outcomes of young men and women who enter the military, analysts can see if the promise becomes reality.

The "Profile of American Youth" report was released just six months ago, so it is far too early to assess its impact on military manpower research. Yet, with the Defense Department report itself and subsequent papers on the "representative quality" of new recruits (Eitelberg & Waters, 1982), it is already clear that the new data base will long serve as a major focal point of research. Indeed, because of the overwhelming importance of the military's enlistment test on the individual "life chances" of young men

Table 7

Military Participation Rates of Male Youth Born Between 1957 through 1962 by Racial/Ethnic Group and Educational Level[a]

Educational Level[b]	Racial/Ethnic Group			
	White[c]	Black[d]	Hispanic	TOTAL
Below High School Graduate				
All Youth	16.6	12.1	5.3	14.5
Qualified Youth	39.0	135.7[e]	45.7	45.1
GED High School Equivalency				
All Youth	18.6	14.2	14.5	18.0
Qualified Youth	25.5	37.6	29.7	27.0
High School Diploma Graduate and Above				
All Youth	9.8	22.3	10.3	11.2
Qualified Youth	10.2	33.7	11.6	12.2
TOTAL				
All Youth	11.5	18.2	9.3	12.3
Qualified Youth	13.6	41.6	15.3	16.0

Sources: Statistics on qualified youth are derived from data that appear in Department of Defense, Profile of American Youth: 1980 Nationwide Administration of the Armed Services Vocational Aptitude Battery (Washington, D.C.: Office of the Assistant Secretary of Defense for Manpower, Reserve Affairs, and Logistics, 1982); and special tabulations provided by the Office of the Secretary of Defense.

[a]Participation rate is the percentage of male youth born between January 1, 1957 and December 31, 1962 who enlisted in the military (for the first time) between July 1973 and September 1981. Participation rates are shown for two base populations: 1. all male youth within the racial/ethnic and education category; and 2. all male youth who would be expected to qualify for enlistment under 1981 aptitude test standards (by racial/ethnic and education category). The cross-sectional participation rates understate the true percentage of male youth who join the military since they do not include individuals who a) enlist after 30 September 1981 and b) enter officer programs. Estimates of the number of youth qualified for military were calculated on the basis of results from the Profile of American Youth (administration of the Armed Services Vocational Aptitude Battery to a national probability sample in 1980) and the 1981 education/aptitude standards used by the Armed Services. (It should be noted that eligibility for enlistment would also depend on other factors—including medical and moral requirements.)

[b]For military personnel, education at time of entry (and initial qualification) into service. Approximately one percent of the male youth population could not be identified on the basis of education; and one percent of military personnel could not be identified on the basis of racial/ethnic group. These unknown cases were not included in the calculations of participation rates.

[c]White category includes all racial/ethnic groups other than black or Hispanic.

[d]Black category does not include persons of Hispanic origin.

[e]During FY 1976-80, the Armed Services unknowingly accepted volunteers who did not meet eligibility standards because of errors in test calibration. These errors affected principally non-high school graduates with low aptitude scores. The unusually high "participation rate" for black non-high school graduates reflects the fact that many more black youth in this category were accepted for military service than would have qualified with the correctly calibrated test.

and women--to be selected, learn, and work in the nation's largest training institution--and because of the consequences of personnel screening decisions on defense capabilities, the standards for entry into the Armed Forces are now being scrutinized with greater zeal than ever before.

The new data base created by the "Profile" study will help the scientific and policymaking community evaluate the standards currently used by the Armed Forces as the basis for their personnel decisions--and, at the same time, reach a more complete understanding of the relationship and role of the military in society. In recent years, military manpower research has often been conducted under severe time constraints, with inadequate data, and by individuals who are unsophisticated in either the issues or the methodological skills. In sharp contrast, the "Profile of American Youth" has the potential of being one of the most far-reaching and productive research efforts originating in the Department of Defense.

The Non-military Context: Uncharted Paths

The National Longitudinal Survey (NLS) of Youth Labor Force Behavior is the newest member in a family of surveys begun in 1965 by the Office of Manpower Policy, Evaluation, and Research, in the Department of Labor.

At that time, the Labor Department contracted with the Center for Human Resource Research of the Ohio State University for longitudinal studies of the labor market experience of four United States population groups. These were, at the time of first interview: men 45 to 59 years of age, women 30 to 44 years of age, and young men and women 14 to 24. Each of these four cohorts was represented by a national probability sample of approximately 5,000 individuals. The original study plan called for annual interviews over a five-year period, i.e., six interviews with each cohort. In fact, not only was the original plan (essentially) adhered to, but the interest generated by the data bases has led to continued data collection from these groups for about fifteen years.[4]

In 1976, an interdisciplinary panel of experts recommended to the Labor Department that a new longitudinal panel of young men and women be started. The new study would both permit replication and comparison of analyses conducted on the earlier cohorts of youth and help in the evaluation of the expanded employment and training programs for youth legislated by the 1977 amendments to the Comprehensive Employment and Training Act.

---

[4]The original data collection was by means of a personal interview; after the first few years, other data collection techniques such as mail or telephone have been interspersed with personal interviews. For a complete description of the surveys, see Center for Human Resource Research, The National Longitudinal Surveys handbook. Columbus, Ohio: Center for Human Resource Research, The Ohio State University, 1981.

The panel of youth used as the sample for the "Profile" study was initially interviewed in 1979 (Wave 1) and is being interviewed by means of a one-hour personal survey annually thereafter.[5] Interviewing of the panel for the fourth time was completed this spring (Wave 4), and planning for the fifth survey is currently underway.[6]

In the course of the past fifteen years, hundreds of reports, papers, academic theses, and articles have been based on data from these surveys of the original cohorts; analyses based on the new panel have just begun to appear. Examination of the NLS bibliography suggests that scholars trained in Economics, Sociology, Psychology, Education and many related fields have variously dissected these data (Center for Human Resource Research, 1981). It is not surprising, therefore, that the anticipated release of data from the first three interviews of the "new" youth cohort, combined with data from the "Profile" study, has generated considerable academic interest and excitement.[7]

One way to share in this sense of intellectual excitement on the part of researchers familiar with the NLS is to scan through the questionnaires and to be overwhelmed by the wealth of data and its research possibilities. A more practical alternative is to inspect a summary of the available information (Table 8). In doing so, it is critical to remember that some variables are collected at each interview (e.g., detailed information about the respondent's current job), while others are collected as part of a continuous history (e.g., marital status), and still others are special topics explored on a one-time basis (e.g., time utilization data collected in 1981).

In addition to the basic annual interview, the data base has been enhanced by several "bells and whistles." Aside from the fortuitous coincidence of interest between the Departments of Defense and Labor that led to

---

[5]In fact, there are three independent probability samples in the panel. Two of these samples were designed to cover the non-institutionalized civilian population in the 14-to-21 age range as of January 1, 1979. The third sample was designed specifically to cover the 17-to-21 age cohort serving in the military as of January 1, 1979. In the spring of 1979, 12,686 civilian and military youth were interviewed. The "Profile" study used for its target sample these 12,686 young men and women. During July-October 1980, a total of 11,914 ASVABs were administered, representing a completion rate of about 94 percent. See Martin R. Frankel and Harold A. McWilliams, The Profile of American Youth: Technical Sampling Report. Chicago: National Opinion Research Center, 1981.

[6]Responsibility for the study design and analyses rests with the Center for Human Resource Research (Ohio State University). Responsibility for drawing and maintaining the sample, conducting the field work, and preparing data tapes has been subcontracted to the National Opinion Research Center (University of Chicago).

[7]In October 1982, the Center for Human Resource Research will release data from the 1979, 1980, and 1981 youth interviews combined with the test data from the "Profile" study.

the availability of aptitude scores for the total sample, high school transcripts are available for over 8,000 members of the youth panel.[8]

How will the availability of aptitude data affect the kinds and types of analyses conducted with the NLS? Framing an answer to that question requires, in part, an overview of the uses that have been made of the NLS family of surveys to date. Fortunately, the task is simplified by the existence of such an overview as well as by the existence of the NLS bibliography. Bielby et al (1978) organized their report around the major substantive areas of labor market research: labor supply; labor demand; human capital and status attainment; unemployment, job separation and job search; social psychological dimensions; aging; and research methodology. These shorthand terms, however, do an injustice to the breadth and depth of the research. In the labor supply category, the authors summarize research that has focused on female labor supply and fertility expectations, child instability, and male labor supply. On the demand side, studies have been conducted that deal with dual and segmented labor markets and sex and race discrimination in the labor market. Human capital and status attainment models have employed the NLS data repeatedly, generally using imprecise measures of ability in an attempt to measure individual trainability (Griliches, 1976, 1977). Sociological studies of status attainment were conducted both prior to the Bielby et al. review and since that time. Most of the social psychological variables in the NLS have been extensively utilized, generally with an emphasis on the role that these variables play in the labor market phenomenon.

As we consider the range of studies conducted thus far, we are continuously impressed by the extent to which researchers from diverse intellectual backgrounds, employing a full range of social science methods, continuously touch on the issue of individual ability as a determinant, directly or indirectly, of "success" or "failure"--be it in finding a job, in being promoted, or in managing one's family.

As we reflect on the addition of the "Profile" data to the NLS, we can only conclude that its utility, importance, and contribution to social science research is limited merely by the creativity, imagination, and perseverance of our colleagues--and, of course, the availability of funds.

---

[8]The U.S. Department of Education funded the collection of complete four-year high school transcripts for these youth. If funding becomes available, additional transcripts will be collected later this year, when the youngest members of the panel will have graduated from high school.

Table 8

Information Available in the National Longitudinal Survey (NLS) of Youth Labor Force Behavior Data Set: Variable Categories by Included Variables

VARIABLE CATEGORIES	INCLUDED VARIABLES
A. Labor Market Experience Variables	
1. Current labor force and employment status and characteristics of current job	Occupation, industry, hours, job benefits; job satisfaction; hourly rate of pay; shift worked.
2. Work experience since January 1, 1978, or since last interview	Number of weeks worked, unemployed, out of the labor force.
3. Characteristics of job with more than 20 hours/week and more than 9 weeks duration since January 2, 1978	Occupation, industry, class of worker, number of hours, worked/week; hourly rate of pay; reason for leaving job; starting and ending dates.
B. Socioeconomic and Human Capital Variables	
1. Early formative influences	Ethnic self-identification; household composition at age 14; occupation of primary male and primary female adults at age 14; parental education and birthplace; current and past religion; availability of magazines, newspapers in home at age 14; language spoken when a child.
2. Education	Current enrollment status, highest grade completed and degree(s) obtained; date of last enrollment; types of high school curriculum, and courses taken during last year; type of college and field of specialization; financial aid in college.
3. Vocational training outside regular school	Type and duration of programs; hours/week in training; completion status.

Table 8, Continued:

4. Government jobs and training programs	Type, length, hours per week and evaluation of program; income from program; assessment of program; reasons for entering and leaving programs.
5. Health and physical condition	Type and duration of health problem; health related work limitations; height and weight.
6. Marital and family characteristics	Occupation and numbers/weeks worked by parents in past year; education of family members; marital status, number of dependents, occupation and education of spouse; periods of living away from parents; marital history since January 1, 1978; number and age distribution of children in households; expected number of children.
7. Financial characteristics	Total family income in previous year; income of respondent (and spouse) from wages of salary, unemployment compensation, public assistance, food stamps, pensions and Social Security, and other sources.
8. Military service (current or past)	Branch, months in military, military occupation(s), pay grade and income; Reserve or Guard activities; type and amount of military training; formal education received while in service; reasons for entry and separation from military; contact with military recruiters; type of discharge.
C. <u>Social/Psychological Variables</u>	
1. Work attitudes	Reaction to hypothetical job offers; characteristics of acceptable jobs; attitudes toward women working.
2. Educational and occupational aspirations and expectations	Type and amount of education wanted and expected; work desired at age 35 and expectation of achieving goal.

Table 8, Continued:

3. Measures and perceptions	Knowledge of world of work score; Rotter Internal-External Locus of Control score; Rosenberg self-esteem scale; perception of age, race and sex discrimination.
4. Misc. social/psychological variables	Significant others; suspension or expulsion from school; delinquency and drug activities in 1980; police contacts, convictions, charges and incarcerations; use of time and allocation of time to educational, occupational and personal activities.
D. Environmental variables	Place of birth and residence at age 14; urban or rural nature of current residence; counties of residence since January 1, 1978.

Source: Based on information contained in Center for Human Resource Research. The National Longitudinal Surveys handbook. Columbus, Ohio: Center for Human Resource Research, The Ohio State University, 1981, Table 15, pp. 44-51; and an examination of the questionnaires.

REFERENCES

Atlantic Council of the United States. Toward a consensus on military service. Elmsford, N.Y.: Pergamon Press, 1982.

Bielby, W. T., Hawley, C. B., & Bills, D. Research uses of the National Longitudinal Surveys. Washington, D.C.: Social Science Research Council, 1978.

Binkin, M., & Eitelberg, M. J., with Schexnider, A. J., & Smith, M. M. Blacks and the Military. Washington, D.C.: The Brookings Institution, 1982.

Bock, R. D., & Mislevy, R. J. Data quality analysis of the Armed Services Vocational Aptitude Battery. Chicago, IL: National Opinion Research Center, August 1981.

Bock, R. D., & Moore, E. G. J. The profile of American youth: Demographic effects on vocational aptitude scores. Chicago, IL: National Opinion Research Center, March 1982.

Center for Human Resource Research. The National Longitudinal Surveys handbook. Columbus, Ohio: Center for Human Resource Research, The Ohio State University.

Chicago Sun Times. "Test scores make education cuts hard to take." February 25, 1982.

Chicago Sunday Sun Times. "Blacks score half as well as whites in Pentagon test." February 21, 1982.

Cooper, R. V. L. Military manpower and the all-volunteer force (R-1450-ARPA). Santa Monica, CA: Rand Corporation, 1977.

Cronbach, L. J. "Five decades of public controversy over mental testing." American Psychologist, January 1975, 30, 1-14.

Department of Defense. America's volunteers. Washington, D.C.: Office of Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics), December 1978.

Department of Defense. Aptitude testing of recruits. Washington, D.C.: Office of the Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics), July 1980.

Department of Defense. Profile of American Youth: 1980 nationwide administration of the Armed Services Vocational Aptitude Battery. Washington, D.C.: Office of the Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics), March 1982.

Department of Defense. Project 100,000: Characteristics and performance of "new standards" men. Washingto, D.C.: Office of the Assistant Secretary of Defense (Manpower and Reserve Affairs), December 1969.

Directorate for Manpower Research. Geographic and racial differences among men qualified for military service (Research Note 72-16). Washington, D.C.: Office of the Assistant Secretary of Defense for Manpower and Reserve Affairs, July 1972.

Eitelberg, M. J. Subpopulation differences in performance on tests of mental ability: Historical review and annotated bibliography (Technical Memorandum 81-3). Washington, D.C.: Office of the Secretary of Defense, August 1981.

Eitelberg, M. J., & Doering, Z. D. "Profile in perspective: The policy and research mplications of the "profile of American youth." Paper presented at the Ninetieth Annual Meeting of the American Psychological Association, Washington, D.C.: August 1982.

Eitelberg, M. J., & Waters, B. K. "Relatively bright and ready to fight: A qualitative comparison of military recruits and American youth." Paper presented at the 65th Annual Meeting of the American Educational Research Association, New York: March 22, 1982.

Featherman, D. L. "Schooling and occupational careers: Constancy and change in worldly success." Constancy and change in human development. Cambridge, MA: Harvard University Press, 1980.

Frankel, M. R., & McWilliams, H. A. The profile of American youth: Technical sampling report. Chicago, IL: National Opinion Research Center, March 1981.

Friedman, T., & Williams, E. B. "Current use of tests for employment." Ability testing: Uses, consequences, and controversies, part II: Documentation section, A. K. Wigdor, & W. R. Garner (Eds.). Washington, D.C.: National Academy Press, 1982, 99-169.

Ginzberg, E., Anderson, J. K., Ginsburg, S. W., & Herma, J. L. The lost divisions. New York: Columbia University Press, 1959.

Gonzalez, Dr. Josue M. "Are Hispanics genetically inferior? Pentagon wants to know." Hispanic Link, Week of March 8, 1982, 346.

Greve, F. "Pentagon says low test scores fault of culture." Philadelphia Inquirer, February 24, 1982, 1.

Greve, F. "Study revives ethnic inferiority controversy." St. Paul Pioneer Press, February 23, 1982, 1.

Griliches, Z. "Earnings of very young men." Boston: Harvard Institute of Economic Research, 1977.

Griliches, Z. "School interruption, work while in school, and the returns from schooling." Boston: Harvard Institute of Economic Research, 1977.

Griliches, Z. "Wages of very young men." Journal of Political Economy, August 1976, 84.

Herrnstein, R. J. "IQ testing and the media." The Atlantic Monthly, August 1982, 250, 68-74.

Jarrett, V. "Genetic inferiority returns." Chicago Tribune, February 26, 1982.

Karpinos, B. D. Qualification of American youths for military service. Washington, D.C.: Office of the Surgeon General, Department of the Army, 1962.

Kim, C., Nestel, G., Phillips, R. L., & Borus, M. E. The all-volunteer force: An analysis of youth participation, attrition, and reenlistment. Columbus OH: Center for Human Resource Research, Ohio State University, May 1980.

Knickerbocker, B. "Pentagon finds recruits more trainable." Christian Science Monitor. February 22, 1982, 5.

Maier, M. H., & Grafton, F. C. Scaling Armed Services Vocational Aptitude Battery (ASVAB) form 8AX (Research Report 1301). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences, January 1981.

Mathews, J. J., Valentine, L. D., & Sellman, W. S. Prediction of reading grade levels of service applicants from Armed Services Vocational Aptitude Battery (ASVAB) (AFHRL-TR-78-82). Brooks Air Force Base, TX: Air Force Human Resources Laboratory, December 1978.

McCall, R. B., & Stocking, S. H. "Between scientists and public; communicating psychological research through the mass media." American Psychologist, September 1982, 37, 985-995.

McCloskey, R. J. "Tilting those test scores." Washington Post, March 10, 1982, A-22.

McWilliams, H. A. The profile of American youth: Field report. Chicago, IL: National Opinion Research Center, December 1980.

McWilliams, H. A., & Frankel, M. R. The profile of American youth: Nontechnical sampling report. Chicago, IL: National Opinion Research Center, January 1982.

The President's Task Force on Manpower Conservation. One-third of a nation: A report on young men found unqualified for military service. Washington, D.C.: Government Printing Office, January 1964.

Raspberry, W. "These test scores were no surprise." Washington Post, February 24, 1982, A-23.

Rowan, C. T. "Bigotry is a stupid luxury." Washington Post, February 28, 1982, A-17.

Sawyer, D. "Morning with Charles Kuralt and Diane Sawyer." CBS Network, February 22, 1982, 7:00 A.M.

Scowcroft, B., Lt. General, USAF (Ret.), (Ed.). Military service in the United States. Englewood Cliffs, N.J.: Prentice-Hall, 1982.

Sellman, W. S., & Hagan, H. T. The profile of American youth: Data audit (Technical Memorandum 81-1). Washington, D.C.: Directorate for Accession Policy, Office of the Secretary of Defense, April 1981.

Sewell, W. H., & Hauser, R. M. Education, occupation, and earnings. New York: Academic Press, 1975.

Sheatsley, P. B. The profile of American youth: Pretest report. Chicago, IL: National Opinion Research Center, September 1980.

Sims, W. H., & Truss, A. R. A reexamination of the normalization of the Armed Services Vocational Aptitude Battery (ASVAB) forms 6, 7, 6E, and 7E (CNS 1152). Alexandria, VA: Center for Naval Analyses, December 1980.

Skager, R. "On the use and importance of tests of ability in admission to postsecodnary education." Ability testing, Part II, 286-314.

Sowell, T. "Race and IQ reconsidered." American ethnic groups, T. Sowell (Ed.). Washington, D.C.: The Urban Institute, 1978.

Uhlaner, J. E., & Bolanovich, D. J. Development of the Armed Forces Qualification Test and predecessory Army screening tests, 1946-1950 (PRS Report 976). Washington, D.C.: Personnel Research Section, Department of the Army, November 7, 1952.

U.S. News & World Report. "A test that stirred a furor." March 8, 1982, 8.

Washington Post. "The test scores." February 23, 1982, A-18.

Washington Post. "Those Pentagon test scores." February 26, 1982.

Washington Post News Service. "Survey finds blacks lag in math, verbal test." Fayetteville Times, February 21, 1982.

Waters, B. K. The test score decline: A review and annotated bibliography (Technical Memorandum 81-2). Washington, D.C.: Directorate for Accession Policy, Office of the Secretary of Defense, August 1981.

Wigdor, A. K., & Garner, W. R. (Eds.). Ability testing: Uses, consequences, and controversies. Washington, D.C.: National Academy Press, 1982, (Part I)

Wigdor, A. K., & Garner, W. R. (Eds.). Ability testing: Uses, consequences, and controversies. Washington, D.C.: National Academy Press, 1982, (Part II)

Wilson, G. C. "Blacks score below whites in Pentagon test." Washington Post, February 21, 1982.